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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/735,315 | 12/12/2000 | Jesse Chin | 10992775-1 | 4955 |

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AGILENT TECHNOLOGIES, INC.
INTELLECTUAL PROPERTY ADMINISTRATION, LEGAL DEPT.
P.O. BOX 7599
M/S DL429
LOVELAND, CO 80537-0599

EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT PAPER NUMBER

2828

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

09/735,315

Applicant(s)

CHIN ET AL.

Examin r

Armando Rodriguez

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.



PAUL IP

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 21-38 have been considered but are moot in view of the new ground(s) of rejection. However, applicant's argument pertaining to the negative peak portion, semiconductor laser devices used in data communication use well-known modulation techniques which provide the laser device with turn-on (logic 1) and turn-off (logic 0). The process from logic 1 to logic 0 will create an undershoot known as negative peaking this characteristic is inherent within the laser devices involved in switching between on and off of the laser. Applicant refers to this characteristic as an ac characteristic, as described in page 11 of the amendment filed on February 13, 2003.

Double Patenting

Applicant is advised that should claim 39 be found allowable, claim 40 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-28 and 36-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: digital controller. On page 10 lines 3-19, as understood by the examiner the laser driver requires the digital controller (200) to compensate for the negative peak portion.

Regarding claim 36, the use of “can include” implies possibility thereby the claim is ambiguous.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29—39 are rejected under 35 U.S.C. 102(b) as being anticipated by Shastri et al (PN 5,844,928).

In figure 2 Shastri et al illustrates a laser driver having a nonvolatile memory (20), a digital controller (36) where the controller compensates for aging and temperature fluctuations by adjusting the current, as described in columns 2 and 3.

Regarding claims 29 and 36, figure 2 illustrates a memory (20) for storing coupled to digital controller (36), which is coupled to driver (43) for receiving the waveform parameters from the digital controller.

Regarding claim 30, figure 2 illustrates the digital controller receiving a maximum aging coefficient from the memory (20), which is provided to the driver for generating the waveform.

Regarding claim 31, figures 1 and 2 illustrates temperature sensor (38) for providing temperature compensation of the laser system.

Regarding claim 32, dc and ac parameters are inherent within the cited prior art.

Regarding claim 33,37 and 38, figure 2 illustrates aging coefficient, bias current, modulation current and temperature compensation as parameters for the laser driver.

Regarding claim 34, monitor (16) is shown in figure 2 with an A/D converter, which is understood that the signal received from the driver is an analog signal.

Regarding claim 35, figure 2 illustrates a laser (14), which includes semiconductor lasers.

Regarding claim 39, figure 2 provides bias current parameter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shastri et al (PN 5,844,928) in view of Heilman et al (US 2002/0094000) and Olsen (PN 5,623,355).

39, 40

In figure 2 Shastri et al illustrates a laser driver having a nonvolatile memory (20), a digital controller (36) where the controller compensates for aging and temperature fluctuations by adjusting the current, as described in columns 2 and 3.

Regarding claims 21, figure 2 illustrates a memory (20) for storing coupled to a driver (43) for receiving the waveform parameters.

Regarding claim 22, Shastri illustrates in figure 2 temperature and aging compensation.

Regarding claim 24, figure 2 of Shastri illustrates an integrated digital controller (36), which provides a waveform signal to the driver based on the temperature sensor (38).

Regarding claim 25, figure 2 of Shastri et al illustrates an up/down counter for providing a waveform signal to driver.

Regarding claims 21,23, 26 and 27, 32

Shastri et al is silent as to the ac characteristic of the laser system and is silent as to using an array of lasers.

The ac characteristics of the laser device are caused by the switching of on and off of the laser system, which is known in the art as undershoot or negative peaking as disclosed by Heilman et al in paragraph [0006].

Olsen illustrates in figure 2 a laser transmitter having memory storage (18), a laser driver circuit (54). In column 3 lines 33-40 disclose factors, which affect the laser as aging and temperature fluctuations and where the processor compensates for these

factors by elevating the laser drive current. In column 6 lines 8-18 disclose the addition of the digital-to-analog converters for their use in parallel semiconductor laser arrays.

Therefore, it would have been obvious at the time the invention was made to provide the laser system Shastri et al with a plurality of lasers having temperature and aging compensation, as taught by Olsen.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is (703) 308-6218. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4881.


Armando Rodriguez
Examiner
Art Unit 2828


Paul Ip
Supervisor
Art Unit 2828

AR/PI
May 7, 2003